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the ensuing feeling of security should have become so firmly fixed.

As a mode of escape or protection, however, it is practised only so long as the birds are bound to a restricted area — the young by their inability to leave it, the old by the care which the nest and fledglings entail. As soon, therefore, as the young birds have acquired the full use of their wings both young and old alike seek the greater safety in flight.



BLACK DUCK NESTING IN BOSTON PUBLIC GARDEN.

BY HORACE W. WRIGHT.

THE first appearance of Black Ducks (*Anas rubripes tristis*) in the Public Garden, of which I am aware, was in the early morning of May 22, 1910, when a pair flew in, alighted on the pond among a family of Mallards (*Anas platyrhynchos*), and remained fifteen or twenty minutes, alert and watchful in their new surroundings. The parent Mallards at once became solicitous for their young brood, especially the mother who carefully kept herself between the female Black Duck and the ducklings. These ducklings had been hatched on May 12, nine in number, but four had been lost in the first few days of life on the pond, leaving five which were successfully reared. When the pair of Blacks left they were escorted on their way by the Mallard drake. The Black Ducks very probably came from the Back Bay Fens, where a considerable flock then wintered season by season. The building of the coffer dam to form the Charles River Basin and exclude tide water has resulted in the complete freezing up of the waters in the Fens in more recent years and an enforced absence of ducks in the winter. But about the intakes of reservoirs in the vicinity and on Leverett Pond, where the waters of Muddy River enter, Black Ducks in varying numbers still winter.

The following spring, 1911, a pair of Blacks came to the Garden on April 18, remained for a short time, watchful of any approach,

and presently took wing westward over the housetops in the direction of the Fens. The following morning they were again present, but did not stay, departing in flight toward the Common. The third morning during an easterly rain they remained and were observed for forty minutes, a typical pair of *Anas rubripes tristis* (Brewster,) the drake with rather red legs and greenish bill, and the duck smaller with brownish legs and dusky bill. They occupied the northern half of the pond where the island is located. The duck invariably swam in advance of the drake, who gallantly accepted her motives and desires as his guide. Once she flew up onto the side of the foot bridge outside the railing in her procedure of investigation. Then both swam toward the island, and she traversed much of its surface, testing the various recesses among the rocks, evidently in search of a nesting site, and several times settled herself an instant to try the several locations. Again she dropped into the water, joining her mate who had remained close by, but had not gone on the island with her. The resumption of close companionship was then followed by much bobbing of heads and a full expression of mutual love. Swimming was resumed, and later they climbed out onto the curbing, giving scarcely more heed to passersby than did the domesticated Mallard pair of the previous year. Perhaps, the heavily clouded and rainy character of the morning was a favoring circumstance. Clearly they had gained a great degree of confidence in two days and the preliminaries for nesting seemed now to have been inaugurated. Would the boating presently disturb them? It was a question of much interest. The island, however, will be as secure a nesting place as it was for the Mallards the previous year when the nine ducklings were hatched, and later in the summer a second brood of eight was hatched and all were raised.

That pair of Mallards was the first which had been seen in the Garden. Probably it belonged to the park flock living in the Fens and in 1910 first made choice of the Garden pond for breeding. These Mallards, presumably the same pair, had returned on March 21 in the following spring and begun preparations for nesting on the island, when a week later the water was drawn from the pond and remained off for eighteen days, leaving only a dry bottom, and the discouraged ducks left. The water was restored on April

15, and happily, three days later the pair of Blacks appeared to take the place of the Mallards and possess the now undisputed waters, since the latter had evidently gone elsewhere for nesting. No Mallards have since bred in the Garden. The order of arrival in this instance seems to indicate that the Mallards were prepared to breed much earlier than the Blacks, even four weeks, the difference in time between March 21 and April 18. Circumstances unknown, however, may have contributed to this disparity, such as the disturbance of the Blacks where their nesting may already have begun. But the interesting fact remains that they found the Garden pond with its island unpossessed and at once adopted it for their family life.

After the three successive days of the presence of the Blacks, already noted, they were absent from the records of the following two mornings. But on April 23 they were back, and the duck several times again searched the island for a nesting site, the drake remaining nearby on the water and occasionally bobbing his head in affectionate greeting to her. When she rejoined him, there was the natural expression of their mutual love. Again the next two mornings the pair was absent, and the question arose whether their choice of the Garden for nesting was after all a certainty. But on the 26th, this doubt was removed by perceiving that the duck had apparently made choice of location for her nest on the west side of the island in a suitable little hollow into which her body fitted well. She turned herself about in it several times. The spot seemed rather exposed to view, having in reality no concealment; but the rocks and earth composing it blended completely in coloration with herself. So the thought was, if she will only sit immovable when boats round the island close to its shores, she will probably successfully cover the period of incubation. The next day the duck was on her nest in the early morning, and the drake was temporarily absent, obviously cognizant of the stage the family life had reached. But the day following it became apparent that mother duck was not satisfied with the chosen spot, that it had not borne the test of trial, and she had now selected a place on the southerly side of the island two to three feet above the edge of the water, snugly located behind the trunk of one of the willows and shielded still more by neighboring rocks, yet

within view of the careful scrutiny of an observer from shore. The drake was again present, but took flight away about 7 A. M. in the direction of the Charles River Basin, the duck continuing on her new nest while we remained a half hour longer. This was April 30. The days following, she went on her nest each morning, usually after being seen on the water with her mate, and when she had settled herself, the drake would swim away and remain at a distance, thus withdrawing attention from the nesting site, or would fly away to other waters for a time. On some of the earlier mornings the pair were seen arriving on the wing and soon thereafter the duck to go on her nest. So its occupancy continued up to May 24 inclusive, when it might be supposed that she had laid her litter of eight to ten eggs and been sitting about two weeks. But the following day she could not be seen on her nest or on the pond and was not again present during the remaining days of May. For some reason the nesting had failed.

The next two springs, 1912 and 1913, no Black Ducks were seen to visit the Garden pond. In 1914, as late as May 16, a pair appeared and was present on some of the successive days, but there was no nesting. The visits were apparently occasional excursions from other waters. But in 1915 a pair of the *tristis* type, perhaps the pair which had made a few occasional appearances in 1914, again came to the Garden as early as March 14, when the winter's ice had but partly gone from the pond. They were not seen again, however, for a week, during which there was a new formation of thin ice nightly with minimum temperatures of 26° to 29°. They reappeared on March 21 and followed up their visits, sometimes being seen on the Frog Pond of the Common. But conditions were not yet favorable for nesting activity, for on March 27 there came a cold wave lowering the temperature to 18° and a coating of new ice was formed on the ponds. This was directly followed by the drawing off of the water for the purpose of cleaning the bottoms, and the ducks, so far as my observation went, made only two or three casual visits during the next two weeks. On April 3 six inches of snow fell. This delayed the spring-cleaning work, and it was two weeks later, or April 17, when the water was turned on again. Visits of the pair of Blacks, however, on April 11, 13, and 14, indicated that they were keeping a watchful eye on

conditions and might be cherishing a purpose of adopting the Garden for their season's family life. So when the pond had been filled by opening connection with the city's water supply, it was reassuring of the fixedness of their choice to see the pair present and investigating the island, the drake with the duck. Two days later, an observer had the unusual sight of witnessing the female walk along a somewhat horizontal branch of one of the willows on the island, as a tree-nesting duck would do. The following day, the 20th, she was seen settled upon what we supposed to be the chosen site of her nest, and egg laying probably began. The location was near the top of the island, which, however, is small, being, perhaps, not more than forty feet in diameter. The sitting was successfully accomplished, notwithstanding much boating on the pond, and on May 29 mother duck led ten ducklings down to the water. This would indicate that the period of laying extended from April 20 to 30 and the sitting period of four weeks to May 28. I had left the city for the season on that day and so was informed by interested observers of what subsequently took place. It seems that two of the ducklings were soon lost, and that when the remaining eight were only four days old they were taken from the mother by the city park department and carried to the zoölogical collection at Franklin Park. The park management, it may be said, got an impression from the actions of the mother duck in leading her young much about over the lawns and getting them into fountain basins from which they could not clamber out and follow her, that she was lacking in the proper care of them. The parent birds at once left the Garden for the season. But they were seen on two or three occasions in October, showing that they retained a liking for the place. It was, however, a very abrupt and disappointing ending to a mother's patient sitting and a most successful hatching, with much credit due the boating public that the nest had in no way been interfered with during the period of almost six weeks covering the laying and incubation of the eggs. The mother's restlessness with her young may have been due to a desire to get her ducklings away to a less frequented place. But the Mallard of 1910 had brought up on the Garden pond her two broods hatched on the island, and these had had no difficulty in swimming out of the way of approaching boats and

had grown into mature birds within the Garden. And the whole combined families were present on the pond many days in the autumn up to its freezing over for the winter in late November, on other days dividing up and some of them on other near waters.

When the season of 1916 opened, the first day that the pond was free from ice, namely, April 2, the pair of Black Ducks made their reappearance, having been thus watchful of conditions. It could not be doubted for a moment that it was the same pair which had adopted the Garden pond the preceding year, so wanted to the place did they seem and withal so glad to be back again at the earliest opportunity. They were of the same *tristis* type. The records show that they were present continuously from that date. On April 6 courting was observed, the duck looked the island over, and, before leaving it, once again as in the previous year perched upon one of the slanting willow trunks and flew off thence to the water. Three days later, the 9th, she was on her nest and probably deposited her first egg, as two days afterward, when she was absent from the Garden, the nest was visited and found to contain three eggs. The water had been drawn from the pond and none remained around the island. But even these conditions did not deter her from holding to her chosen location. This was now on the northerly side of the island about four feet from the water's edge. On the 14th, again in her absence, the nest was visited and found to contain six eggs well covered over with dead grasses, the number indicating that one had been laid each day. On the 19th the water was returned to the pond. Thirty-one days later, on May 20 at 7.10 A. M., she came down to the water followed by five ducklings only. Thus many of her eggs had failed to hatch. The period covered between the laying of her first egg on April 9 and the hatching on May 19 was forty-one days. As sitting would occupy but twenty-eight days, the period allowed for the laying of thirteen or fourteen eggs. Whether such was the case it cannot be stated. If she did not lay as many, there must have been an interruption to the usual order of the nesting due to some cause unknown.

When the ducklings dropped into the water, they at once swam actively about in their newly awakened happiness. A half-hour later the mother had taken them back to their nest for brooding.

The drake came in on the wing five minutes after the young had embarked on the pond and joined his family for a time. He had been absent almost altogether during the period of incubation, only occasionally being seen on the Garden pond. But on some of the days he was no farther away than the Frog pond on the Common and had the companionship variously of one, two, or three other drakes. During the days following the presence of the ducklings on the pond with their mother he was seldom with his family.

On May 23, when the ducklings had been but three days upon the water, the family was missed from the pond. But shortly a loud quacking was heard from the northwest corner of the grounds, and it was found that the mother with one duckling was travelling toward the pond, while the four remaining ducklings were struggling to get out of a fountain basin and follow her. This they could not do on account of the height of the granite curbing. A dozen men had gathered, attracted by the mother's calls, and seeing that the attempts of the ducklings were unavailing, it was at length suggested that a garden bench be placed on an incline with one end in the water and effort be made to induce them to clamber up this incline. This was done, and after a time the idea of a means of escape thereby came to them and they began its ascent. But the bench proved to be slippery, as it was wet with rain, and the ducklings slid back as often as they made an advance. The thought then occurred to place newspapers which were at hand on the wet surface of the bench. This done, after a little time of further effort the ducklings were again induced to try the ascent, and three succeeded in climbing to the top and tumbling to the ground. Meanwhile the mother duck had left her one duckling safe on the pond and returned quacking for the four, a reversal of the story of "the ninety and nine." With a little more perseverance the one remaining duckling was induced to climb the newspaper-covered bench and was at last in safety with its mother and the three, and all travelled to the pond and joined the duckling left there, which meanwhile had remained unconcerned over its isolation as if it comprehended the whole proceeding. The interest and patiently rendered assistance of the men, who were passing through the Garden at the time to their work, was a pleasing instance of spontaneous kindness and sympathy.

Three days later there were but four ducklings, one having been lost. And the following day the whole family had disappeared. The explanation furnished me by an employee was that he was told by a man, who himself observed the proceeding, that he had seen at five o'clock in the morning the mother duck and young travelling over the Garden lawns and crossing Beacon Street in the direction of the Charles River Basin, which is just in the rear of the houses. Such a walk by the brood would certainly not be beyond their powers, taking their way through the extension of Arlington Street to the esplanade bordering the basin. The act of the mother was entirely consistent with her apparent purpose the previous year, when she was intercepted and her ducklings taken away to the city Zoo. Doubtless this brood of four, then but a week old, perished on the open waters of the Basin, unable to cope with their roughness when strong winds arise. Thus we have an instance of a Black Duck, to a considerable extent domesticated by living among men so that she nests confidently where they resort in large numbers, upon possessing her young apparently urged by a desire to get them away to a less frequented place under a mistaken idea about their relative safety, and so jeopardizing their lives. Four days later, May 30, the pair was again on the Garden pond without their ducklings, but, as far as my knowledge goes, they only continued to visit the pond for a day or two and then absented themselves. In October and November a pair of Black Ducks, presumably this same pair, was observed on the Garden pond upon many of the days and were last seen visiting their old haunt on November 24.

When the spring of 1917 was opening and the ice began to break on the ponds, so that merely a small area of open water had appeared at one end of the Frog Pond, the pair of Black Ducks — with scarcely a doubt the same pair which had nested on the island in 1915 and 1916 — so closely watchful of conditions as to discern this, once more appeared on the wing over the Garden and, perceiving an unbroken surface of ice on the pond there, continued their flight to the Common, where was the bit of open water. This occurred on March 26. On the following day the Garden pond came to be almost half free from ice, and, upon my morning visit, the pair was found to be swimming and tipping

happily in its waters, availing of the very first opportunity to be in their old haunt again, it may be said indeed, delaying scarcely an hour after the partial opening up. Their presence on several days thereafter was recorded. On April 1 the duck was observed on the island. On the 4th the water was drawn off, and the next day the pair was seen flying in, but they left directly, as the pond had been drained to its bottom. For seven days then the ducks were not seen, and it seemed as if they might have been deterred from their purpose of again breeding in the Garden. But on the 13th they were back and paddling in the mere shallow ditch which runs centrally through the pond and still retained a little water. It was five days later when the water was restored and the pair began their continuous occupancy of the pond. This season it seemed as if there were a purposed delay on their part in beginning the nesting until the water should have been returned, as by their experience of previous seasons they might feel assurance it would be. On the first day of their return, April 18, the female was seen investigating the island. The following day she went upon it several times successively during observation and seemed to be making choice of a spot on the southerly side, for she again and again tested its fitness by adjusting herself upon it. Six days later she was seen on her nest, probably to deposit her first egg, and upon each day following the same record 'duck on her nest' was made up to May 29 inclusive, when at 7.20 A. M. she moved down to the water with a brood of eight ducklings following her. The drake was not present at the time. The egg-laying would seem, therefore, to have occupied eight days, April 25 to May 2, and the period of incubation to have extended to May 28, when the young were hatching, and thus upon the water the day following. Again mother duck had accomplished a successful nesting, free from interference. It had been possible just to discern her form as she sat on her nest, the protective coloration of her plumage blending completely with her surroundings. And later, when the grasses and lily leaves grew up around her, she was almost entirely concealed from view. So as she probably maintained her fixed position when boats full of people rounded the island, it is likely that their occupants were unaware of her presence. But many bird-lovers followed the course of her family

life with much interest and pleasure. I was informed that the brood was safely cared for in the Garden up to July 4, or a day or two later, when the ducklings had come to be more than five weeks old; not one had been lost. But the whole family then disappeared, and it was surmised that the mother following her bent, as observed in the two preceding years, had led them over to the Charles River Basin.

In October I found the mother and one immature duck on the Garden pond. The young duck was about half grown, and the wing quills were very little developed. It was regarded as probably a duckling of a second brood, raised outside the Garden; for I have since been informed that a mother Black Duck with two ducklings, probably three or four weeks old, was seen for a time in late summer on the esplanade bordering the Charles, where it is at a distance of a few hundred feet only from the Garden. So the other having been lost, presumably on the Basin, she may have eventually led her remaining duckling to the Garden pond now so familiar to her. Here it remained continuously up to the time of the closing of the pond with ice, having grown to about full size and developed power of flight. Sometimes in the later days of the autumn the mother was absent and the young duck alone, and again on many days not only was the mother present, but several others, both male and female, which came in company with the original pair to its Garden haunt on excursions from other waters. And it is not unlikely that some of these visitors were members of the brood raised in early summer which departed from the Garden and, it was surmised, went to the Charles River Basin at the time of their disappearance.

So the Public Garden has been the successful nesting place of a pair of Black Ducks for the last three years, 1915, 1916, 1917, following an earlier attempt at nesting in 1911 which was not successful. These breeding ducks are to be regarded as essentially wild, not having been in the care of the city or owned by the park department, but belonging to flocks which year by year have arrived upon ponds and reservoirs in this vicinity and have wintered here in considerable numbers. They come and go at pleasure. So these pairs of the Garden, undoubtedly of such origin, have lived their own free life and come and gone according to their

desire, owned and controlled by no human agency. Protective laws now in operation for several years have materially furthered the possibilities and even probabilities of just such an occurrence as the choice for breeding of a much frequented city garden like the Boston Public Garden, possessing a pond and suitable island within it. And as wild ducks just from a fully wild life soon come to feel at ease and safe, gradually losing apprehensive fear, when unmolested in their occupancy of park and reservation waters during their migratory flights, which the extended visits of wild ducks¹ to Jamaica and Leverett ponds in recent years have shown, so these Black Ducks of the Public Garden, which already had lived in some degree of confiding association with man on neighboring waters, soon became as wonted to the peopled garden and as little apprehensive upon near approach as domesticated ducks of farm or public park. Yet they retain their freedom, as the latter do not, and live their own lives unmodified by the control of man. This is cause for congratulation and gratitude to the agencies which have so efficiently and earnestly labored for laws covering the protection of our wild fowl.

It may be stated that the Boston Public Garden has an area of twenty-four acres and is located somewhat centrally within the city, the Charles River Basin, however, lying in close proximity to its northern side. The pond occupies three and three-fourths acres of the whole area. It is shallow, not paved except around the margin, but has a muddy bottom, and it is bordered by granite curbing. In former years European Swans and for one or two seasons Muscovy Ducks were kept by the park department on the grounds during the season when the pond was open, but in these recent years of the nesting of the Black Ducks no other water fowl have lived within the Garden. The Blacks, therefore, have had undisputed possession, while the swans and domesticated ducks have been maintained at Franklin Park in connection with the city's zoölogical collection there.

In the spring of 1918, this pair of Black Ducks made its reappearance on March 25, when the pond was still incased in ice, making a circuit over the Garden, but not alighting. Two days later

¹ Some Rare Wild Ducks wintering at Boston, Auk, XXVII, Oct. 1910, pp. 390-408.

they made a brief visit, remaining a few minutes at the base of the fountain where already was a very small area of open water. On the 30th the pair was seen standing on the curbing upon the first day of a considerable opening up. On the following day the ice had almost entirely disappeared, and the Blacks were present, enjoying the open water. On April 1, at the time of my morning visit, the female, to my surprise, was seen on the spot of her nest of the previous year on the island, well settled upon it and occasionally drawing dead grasses and leaves with her bill about her. The drake was swimming on the pond. The day following I found the water was being drawn off for the annual spring cleaning, but the ducks were present. April 3 and 4, the pond had been drained, and the ducks were not present. But on April 5, again the duck was seen on her nest at the time of my morning visit, while laborers with hoes were scraping the bare bottom of the pond around the island. And a little later the pair was seen swimming in the central ditch, where some water remained. On the 6th, as the duck was not present, I visited the nest and found it empty; but upon the bottom of the pond at a spot nearby was the shell of a duck's egg, indicating that she had laid her first egg, presumably, on the previous day when I had seen her on her nest. Then during the days following the pair absented themselves while the work of cleaning was completed. The water was restored on the 11th, and in another day the pond had filled. But the ducks did not promptly return. On the 16th, however, again the duck was seen on her nest in the morning, and it seemed likely that her nesting was now begun in earnest, but it did not prove so. The visits of the pair were intermittent and transitory both to the Garden pond and the Frog Pond, and in late May they were no longer seen. At this time the pair of Blacks was replaced by a pair consisting of a Mallard Drake and a Black Duck, which were seen successive days, with a presumption that this pair in the absence of the Blacks had become their successors. Both pairs had been observed present on one or two occasions, when the Black Drake drove off the Mallard Drake, pursuing him from the Garden. But it eventuated that the Blacks seemed not to have a settled purpose to breed in the Garden this season, and so finally at the end of May they relinquished the pond and island to this rival pair whose

nesting now began, as indicated by the presence of the drake alone on the pond morning by morning and the absence from view of the duck, as she presumably occupied her nest on the island, concealed by the vegetation which had arisen upon its surface.

THREE INTERESTING GREAT HORNED OWLS FROM NEW ENGLAND.¹

BY GLOVER M. ALLEN.

DURING the cold winter of 1917-18, New England had an unusual visitation of Great Horned Owls. A large number were killed or captured and many found their way into taxidermists' shops. Among several received that winter at the State Museum at Augusta, Maine, I noticed on a recent visit, a single one that appeared to be uncommonly dark, and on my expressing an interest in the bird, Curator Thomas A. James of the Museum very generously presented the specimen to the Boston Society of Natural History. It was an adult female taken at Scarborough, Maine, about February 7, 1918, and received in the flesh by Mr. James on the 9th. Through the kindness of Mr. Outram Bangs, it has been compared carefully with the series of Great Horned Owls from eastern North America in the Museum of Comparative Zoölogy, and it seems to be without doubt referable to the dark northern race, typical in Labrador, *Bubo virginianus heterocnemis* Oberholser. It is especially interesting, however, in being even darker than the generality of these northern birds, with a considerable clouding of blackish in addition to the black barrings that thickly cover the breast, and in almost lacking the usual bright buffy markings. Its whole appearance is therefore unusually sooty. It agrees with the Newfoundland and Labrador birds in having the facial disks dark, a mixture of black, gray and tawny, instead of nearly clear tawny, as in typical *virginianus*. The feet are dusky gray, finely speckled with darker, instead of the usual

¹ Read before the Nuttall Ornithological Club, January, 1919.